

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1-9. (cancelled)

10. (previously presented) A semiconductor device comprising a transistor channel, wherein:

the channel comprises an inner portion and an outer portion;
the outer portion surrounds the inner portion;
the inner portion and the outer portion have different lattice properties; and
a gate formed over the channel, wherein the gate surrounds at least a section of the channel on at least three sides.

11. (original): The apparatus of claim 10, wherein the inner portion comprises silicon-germanium and the outer portion comprises silicon.

12. (original): The apparatus of claim 10, wherein the outer portion surrounds the inner portion on at least three sides.

13. (cancelled).

14. (previously presented): The apparatus of claim 10, wherein the gate is substantially perpendicular to the channel.

15. (cancelled)

16. (previously presented): The apparatus of claim 10, wherein a gate oxide is formed between the channel and the gate.

17. (currently amended): The apparatus of claim 10, wherein a metal sueide silicide layer is formed on a top surface of the gate.

18. (original): The apparatus of claim 10, wherein the thickness of the inner portion is between 10 nm and 90 nm.

19. (original): The apparatus of claim 10, wherein the thickness of the outer portion is between 10 nm and 100 nm.

20. (previously presented): The apparatus of claim 10, wherein the outer portion includes a layer formed between the inner portion and the semiconductor substrate.

21. (original): The apparatus of claim 20, wherein the layer comprises silicon.

22. (original): The apparatus of claim 21, wherein the layer is strained silicon.

23. (original): The apparatus of claim 20, wherein the layer comprises approximately the same lattice property as the outer portion.

24. (original): The apparatus of claim 20, wherein the thickness of the layer is between 10 nm and 30 nm.

25. (original): The apparatus of claim 20, wherein:
the semiconductor substrate comprises a source region and a drain region;
and
the channel is coupled to the source region and the drain region.

26. (previously presented): A semiconductor device, comprising:
a substrate;
a channel having an inner portion and an outer portion formed on the substrate, wherein the inner portion and the outer portion have different lattice properties; and
a gate formed over the channel, and wherein the gate surrounds at least a section of the channel on at least three sides.

27. (previously presented): The apparatus of claim 26, wherein a gate oxide is formed between the channel and the gate.

28. (previously presented): The apparatus of claim 26, wherein the gate is substantially perpendicular to the channel.

29. (previously presented): A semiconductor device, comprising:
a substrate;

a channel having an inner portion and an outer portion formed on the substrate, wherein the inner portion and the outer portion have different lattice properties;

a gate formed over the channel, and wherein the gate surrounds at least a section of the channel on at least three sides; and

a source region and a drain region coupled to the channel.

30. (previously presented): The apparatus of claim 29, wherein the gate is substantially perpendicular to the channel.

31. (previously presented): The apparatus of claim 29, wherein a gate oxide is formed between the channel and the gate.